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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Joseph W Price
Price Gess & Ubell
Suite 250
2100 SE Main Street
Irvine, CA 92614

EXAMINER

PERRY, ANTHONY T

ART UNIT

PAPER NUMBER

2879

DATE MAILED: 04/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/831,220

Applicant(s)

TAGAMI, ETSUJI

Examiner

Anthony T Perry

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 2,3,13,14,16,17,19 and 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,4-12,15,17,18 and 21-28 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 23 January 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 23 January 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Response to Amendment

The Amendment, filed on 1/23/03, has been entered and acknowledged by the Examiner. Cancellation of claims 3 and 17 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 15, 21, 23-25 and 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art admitted by applicant in view of Kim (US 5,763,994) and further in view of Sato et al. (JP 5-20250).

Regarding claims 1, 15, and 23 the applicant discloses picture tube (CRT) in Fig. 1 with an electron gun 5 in a neck portion of the funnel 4 and a deflection yoke 6 mounted on an outer surface of the funnel 4. Present day CRT's conventionally are of the color-type and have an outer envelope composed of a front panel, funnel portion and a neck portion. The front panel conventionally has a phosphor screen on its inner surface as evidenced by Kim. The applicant further discloses that a deflection yoke of the bend-up-less type comprising a saddle-shaped horizontal deflection coil, a saddle-shaped vertical deflection coil, an insulating frame, and a correction coil are conventionally used in broad deflection angle CRT apparatuses (Background Art of present application). The saddle-shaped horizontal deflection coil and the saddle-shaped vertical deflection coil are provided along, respectively the inner and outer surface of the

insulating frame, which insulates the deflection coils. The applicant further discloses that the correction coil is provided above the outer surface of an electron gun side bend portion of the deflection coils. The prior art admitted by the applicant however does not teach a setting member which is integrally formed with the insulating frame.

The Kim reference teaches an insulating frame 34a in Fig. 3 that has a part which acts as a setting member. The setting member part of the insulating frame 34a is on the electron gun 33 side and behind the bend portion of the deflection coils (shown in Fig. 3 but not separately labeled). The correction coil 50 is set at a fixed position in front of a wall surface of the setting member which faces the screen and therefore inherently has a positioning fixing member. Since the insulating frame 34a as a portion which acts as a setting member, there is no need to provide a separate back cover as is the case with the prior art admitted by the applicant. Accordingly, one of ordinary skill in the art would have been motivated at the time the invention was made to have used a setting member that is integrally formed with the insulating frame so as to eliminate the need for a separate back cover, reducing the number of parts and steps required for assembly.

Neither the prior art admitted by the applicant or the Kim reference specifically teach a positioning fixing member that is freely detachable in relation to the setting member. However, the Sato reference teaches a correction coil 11 in Fig. 1 that has a positioning fixing member 5 that is structured to be freely detachable in relation to the setting member 4 which allows for the correction coil 11 to be replaced more easily if a problem arises. The positioning fixing member is structured so as to be positioned and fixed to the setting member 4 by gripping the perimeter of the setting member 4.

Accordingly, one of ordinary skill in the art at the time the invention was made would have found it obvious to use a fixing member which is freely detachable so that the correction coil can be easily replaced if a defect occurs.

Regarding claim 21, Kim teaches the setting member part of the insulating frame 34a having a flat wall surface facing the screen of the CRT (Fig. 3). The same reasoning given in the rejection of claims 1 and 15 applies.

Regarding claim 24, the Sato reference discloses the positioning fixing member 5 having a structure in which two opposing rod members 8,14 extend from the correction coil 11 substantially horizontally in opposite directions (Fig. 1). A tip of each rod member 8,14 is bent around the perimeter of the setting member 4, and the inner surface of the bend hooks to the perimeter of the setting member 4.

Regarding claim 25, Fig. 1 of the Sato reference discloses a base end 9,10 of each of the opposing rod members 8,14 which is secured to the correction coil 11. Also, a tip of each of the opposing rod members 8,14 extends along a core rod direction. The Sato reference does not specifically state that the rod members 8,14 are secured to the end surface of the core 7 of the correction coil. However, it is noted that the applicant's specific limitation of the rod members being secured to the core portion of the correction coil is not shown to solve any of the stated problems or yield any unexpected result that is not within the scope of the teachings applied. Therefore it is considered to be a matter of choice, which a person of ordinary skill in the art would have found obvious to select any part (the flange, the ends of the core, the middle of the core, etc.) of the correction coil for connecting the rod members of the fixing member as long as desired placement of the correction coil with respect to the setting member can be achieved.

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Regarding claims 27, the same reasoning for combination given in the rejection of claims 1 and 15 applies. A method of manufacturing the deflection yoke resulting from combining the prior art admitted by the applicant and the Kim reference would inherently include a step for preparing the insulating frame which was integrally formed with the setting member. It would also inherently include a step for providing the horizontal deflection coil on the inner surface of the insulating frame and a step for providing the vertical deflection coil on the outer surface of the insulating frame. Since the correction coil is set to the wall surface of the setting member which faces the screen of the CRT, one of ordinary skill in the art at the time the invention was made would have set the vertical deflection coil before setting the correction coil so that the correction coil does not pose a problem of getting in the way when performing the step of setting the vertical deflection coil.

Regarding claim 28, the Kim reference teaches that the correction coil instead of being fixed to the setting member may be fixed to the neck of the CRT by adhesion or a separate fixing member (col. 2, lines 56-59), implying that the correction coil may be set at a predetermined distance from the wall surface of the setting member that faces the screen of the CRT if so desired. The same reasoning for combination given in the rejection of claims 1 and 15 applies. Therefore, if the method of securing the correction coil to the neck of the CRT is chosen, which is in accordance with the teachings applied, the step for setting the correction coil would include placing and setting the correction coil at a predetermined distance from the screen-side wall surface of the setting member. Regarding claims 3, 17, and 23, neither the prior art admitted by the applicant or the Kim reference specifically teach a positioning fixing member that is freely detachable in relation to the setting member. However, the Sato reference teaches a correction

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coil 11 in Fig. 1 that has a positioning fixing member 5 that is structured to be freely detachable in relation to the setting member 4 which allows for the correction coil 11 to be replaced more easily if a problem arises. The positioning fixing member is structured so as to be positioned and fixed to the setting member 4 by gripping the perimeter of the setting member 4.

Accordingly, one of ordinary skill in the art at the time the invention was made would have found it obvious to use a fixing member which is freely detachable so that the correction coil can be easily replaced if a defect occurs.

Claims 4, 10-12, 18, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art admitted by applicant in view of Kim (US 5,763,994) in view of Sato et al. (JP 5-20250) and further in view of Kohzuki et al. (US 4,788,470) and Hishiki et al. (US 6,046,538).

Regarding claims 4 and 18, as mentioned in the rejection of claims 1 and 15 the prior art admitted by the applicant teaches the correction coil placed above the electron gun side bend portion of the deflection coils. The Kim reference teaches in Fig. 5 the correction coil 61 having a bobbin 65a which covers the core 61a and which is conductive wire wound there around. The positioning fixing member is inherently set at a substantially fixed position in relation to the core 61a. The same reasoning for combining given above in claim 1 applies. Neither the prior art admitted by the applicant nor the Kim reference specifically teach the correction coil having a leg portion. However correction coils having a leg portion that points in a direction toward the neck of the tube such as correction coils having a U-shaped or E-shaped core are conventionally used in the art to compensate for misconvergence caused by the horizontal and vertical deflection coils, as evidenced by the Kohzuki and Hishiki references. Therefore, one of ordinary skill in the art at the time the invention was made would have found it an obvious choice to have used a

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correction coil without a leg portion such as the one taught by Kim or one having a leg portion, as those taught by Kohzuki and Hishiki, that points in a direction toward the electron gun side bend portion of the deflection coils depending on the type of misconvergence needed to be corrected.

Regarding claim 10-12, Fig. 3 of the Kohzuki reference teaches a correction coil 16 with a U-shaped core 21 with leg portions 21a, 21b. The bobbin 23 covers substantially a center portion of the U-shaped core 21 whose legs point toward the neck of the tube. Fig. 3 also discloses a correction coil 18 with an I-shaped core 25 with a bobbin 27 covering substantially its center portion. The I-shaped core has one end pointing towards the neck of the tube. The Hishiki reference, in Fig. 32, discloses a correction coil 206 with an E-shaped core 206 with one bobbin 212a, 212b, 212c covering each of the leg portions. The leg portions each pointing toward the neck of the tube. One of ordinary skill in the art at the time the invention was made would have found it an obvious choice to have used a correction coil with an E-shaped, U-shaped, or I-shaped core or combination thereof based on preference and what type of misconvergence needed to be corrected by the correction coils. Furthermore, as mentioned in the rejection of claim 1, the prior art admitted by the applicant teaches the correction coil placed above the electron gun side bend portion of the deflection coils. Therefore, a correction coil having an E-shaped or U-shaped core placed in the position taught by the admitted prior art will have leg portions pointing toward the electron gun side bend portion of the deflection coils. Placing the I-shaped core in the position taught by the prior art will result in one end pointing in the direction of the electron gun side bend portion of the deflection coils. The same reasoning for combination given in the rejection of claims 4 and 18 applies.

Regarding claim 22, Kim teaches the setting member part of the insulating frame 34a having a flat plate form, and is integrally formed with the insulating frame 34a such that it is upright from the electron gun side end of the insulating frame 34a (Fig. 3). Same reasoning for combining given in the rejections of claims 4 and 18 and claims 10-12 apply.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art admitted by applicant in view of Kim (US 5,763,994) in view of Kohzuki et al. (US 4,788,470) and Hishiki et al. (US 6,046,538) and further in view of Sato et al. (JP 5-20250).

Regarding claim 9, the prior art admitted by the applicant, the Kim reference, the Kohzuki reference and the Hishiki reference fail to specifically state that the correction coils include a flange portion. However, Fig. 1 of the Sato reference discloses a flange portion (not labeled) provided at both ends of the bobbin 6. The same reasoning for combination given in the rejection of claims 1, 15, and 23 applies. Sato does not specifically state that the flange portions contact the setting member 4. However, it is noted that the applicant's specific limitation of the flange portions contacting the setting member is not shown to solve any of the stated problems or yield any unexpected result that is not within the scope of the teachings applied. Therefore it is considered to be a matter of choice, which a person of ordinary skill in the art would have found obvious to select any placement (touching the setting member, in front of the setting member, etc.) of the flange portions as long as the positioning fixing member is set at a substantially fixed position in relation to the core.

Claims 5-8 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over the prior art admitted by applicant in view of Kim (US 5,763,994) in view of Kohzuki et al. (US

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4,788,470) and Hishiki et al. (US 6,046,538) and further in view of Endo (US 4,300,285) and Ishiwata (US 5,433,498).

Regarding claims 5-8, none of the afore mentioned references specifically teach a fixing member with a claw portion which is interlocked with a notch portion of the setting member. The Endo and Ishiwata references teach a method of fixing an object to another object. Fig. 10 of the Endo reference discloses a setting member 22 having a notch 21b and a positioning fixing member having a claw portion 42a which is interlocked with the notch 21b. The Ishiwata reference teaches a positioning fixing member 63 having a protruding portion 65 with a fitting portion 66 which is inserted in an insertion aperture, a slot 64, provided in the setting member 62. Since the Endo and Ishiwata references are in the same field of endeavor of fixing an object to another object, one of ordinary skill in the art at the time the invention was made would have found it to be an obvious choice to use any of the fixing techniques described by Endo or Ishiwata for use in fixing a correction coil to the setting member of a deflection yoke.

Regarding claim 26, none of the afore mentioned references specifically teach a fixing member with a claw portion which is interlocked with a notch portion of the setting member. The Endo and Ishiwata references teach a method of fixing an object to another object. Fig. 10 of the Endo reference discloses a setting member 22 having a notch 21b and a positioning fixing member having a claw portion 42a which is interlocked with the notch 21b. The Ishiwata reference teaches a positioning fixing member with a latch protrusion 66 which latches into an aperture 64 provided on the positioning fixing member 63. The fixing member 63 is positioned and fixed by inserting the latch protrusion 66 into the aperture 64. Since the Endo and Ishiwata references are in the same field of endeavor of fixing an object to another object, one of ordinary

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skill in the art at the time the invention was made would have found it to be an obvious choice to use any of the fixing techniques described by Endo or Ishiwata for use in fixing a correction coil to the wall surface of the setting which faces the setting member of a deflection yoke. The same reasoning for combination given in the rejections of claims 1, 4, and 10-12 apply.

Response to Arguments

The Applicant is correct in that the Kim reference does not teach removable attachment of the correction coil. The limitation of the removable attachment of the correction coil is satisfied by the Sato reference. The only feature of the Kim reference used in combination is the setting member being integrally formed with the insulating frame.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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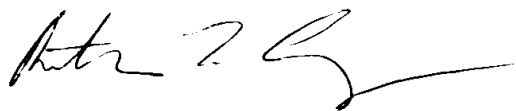
Any inquiry concerning this communication or earlier communications from the examiner should be directed to *Anthony Perry* whose telephone number is (703) 305-1799. The examiner can normally be reached between the hours of 9:00AM to 5:30PM Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel, can be reached on (703) 305-4794. The fax phone number for this Group is (703) 308-7382.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [**Anthony.perry@uspto.gov**].

All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.



Anthony Perry
Patent Examiner
Art Unit 2879
April 7, 2003



NIMESHKUMAR D. PATEL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800